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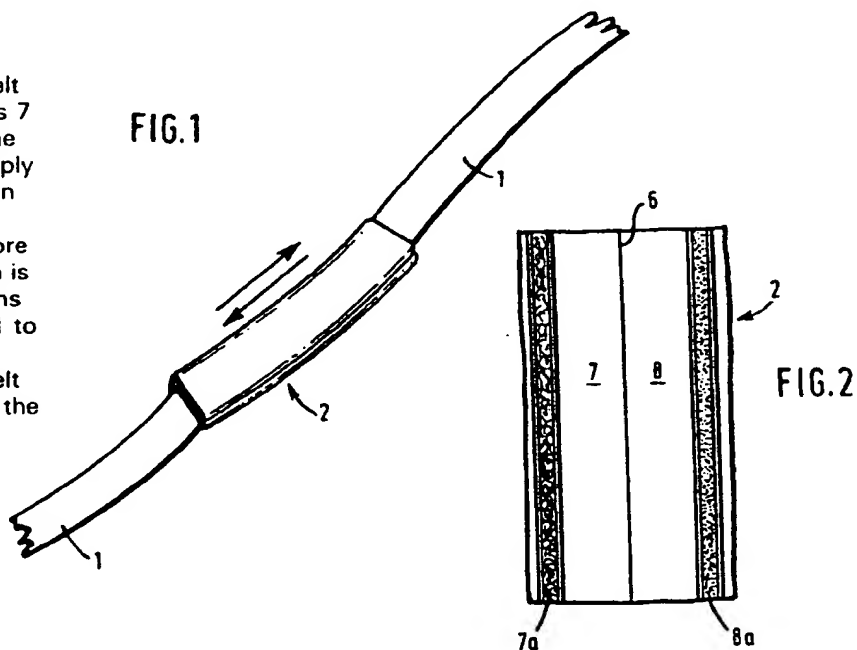
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GB A 2133970 GB 1581996 GB 1178512  
GB A 2048651 GB 1565644 GB 0942507

(58) Field of search  
A3V

(54) A seat belt pad

(57) A seat belt pad 1 for a seat belt 2 comprises two elongate portions 7 and 8 connected at a stitched spine 6, the sleeve being made of three-ply construction, upholstery fabric 3 on the exterior and cotton liner 5 sandwiching a fibrous polyester core 4. A "Velcro" strip system 7a, 8a is provided to secure the two portions 7 and 8 together around the pad 1 to provide a means of padding the shoulder and chest regions of a belt wearer when the pad is slid along the belt.



GB 2 164 835 A

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FIG. 1

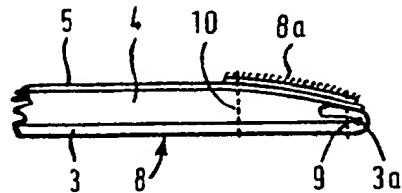
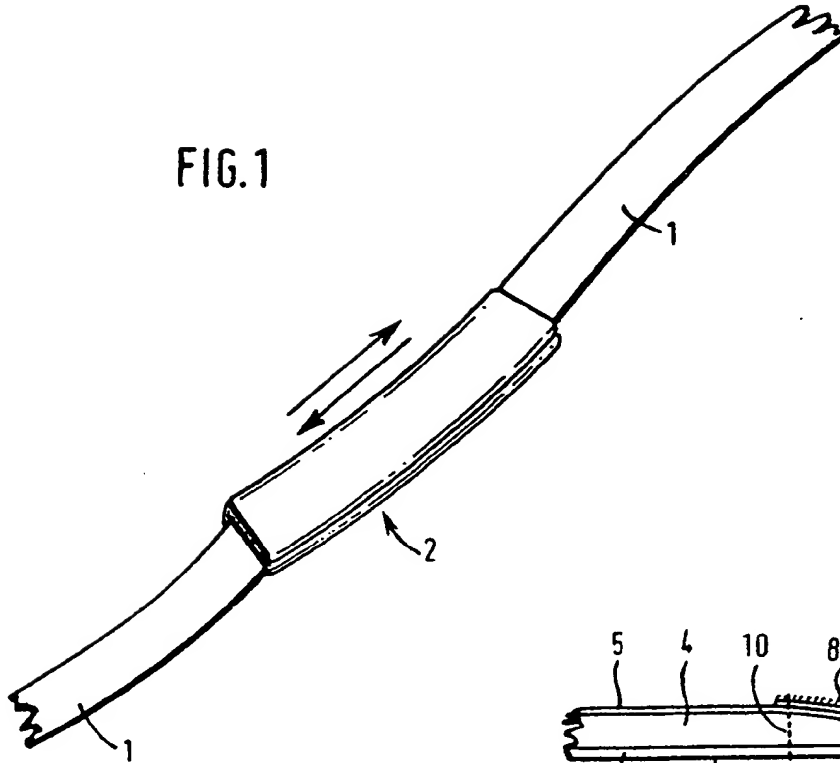


FIG. 3

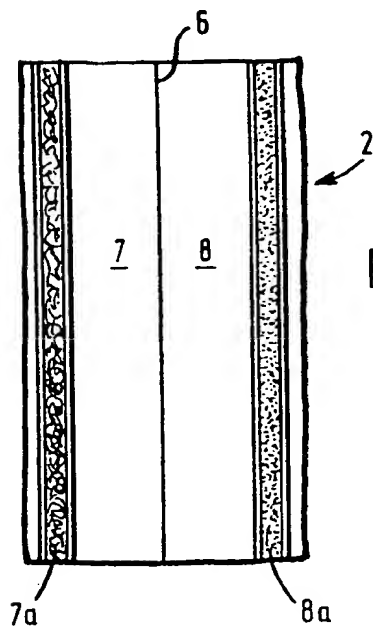


FIG. 2

## SPECIFICATION

## Seat belt accessory

5 The invention relates to a seat belt accessory in the form of a sleeve which in use is enveloped over an automobile seat belt to serve as a pad between the belt and the shoulder/chest regions of its wearer for comfort purposes.

10 Seat belts have been in wide use in almost all countries for many years and are compulsory at least for drivers and front seat passengers in many countries including the UK. Considerable design effort has been expended on seat belt design and various designs and types are available. Modern opinion favours inertia reel type belts which allow movement of the wearer with minimal restriction whilst at the same time providing desired levels of restraint and safety in accident situations. Inertia reel seat belts are a typical case of belt design where user convenience as well as safety considerations have been taken into account at the design stage and indeed represent the major aspect of the design brief.

25 Whilst inertia reel belts offer the above advantages, one long-standing disadvantage has been lack of user comfort in view of the impingement of the belt on the anatomy of a wearer, particularly in the chest and shoulder regions. Various attempts to alleviate this problem have been made, generally by providing a means of directing the belt such that this impingement is minimal. Despite these attempts, however, no entirely satisfactory solution to the problem of wearer discomfort has been proposed.

30 According to the invention there is provided a sleeve for envelopment over an automobile seat belt to serve as a pad between the belt and the shoulder and/or chest regions of its wearer for comfort purposes, the sleeve comprising a body of sheet-form material defining two opposed side members for the sleeve, means to unite the two members in face-to-face sleeve-defining relationship, with the members secured together at a junction along each of a pair of opposed lateral edges of each member but unconnected therebetween so that the members form an envelope in which the belt is in use slidably received between the members and said opposed edges and extends from an opening defined by the members at one extremity to an opening so-defined at an opposed extremity, the members being separable along at least one lateral edge-to-edge junction so that the sleeve and belt can be separated, and the sheet-form material having an exterior surface which frictionally engages the belt wearer's clothing so that with movement of the wearer, the belt slides relative to the sleeve but the sleeve remains stationary relative to the underlying surface of the wearer's body and clothing.

70 The two sleeve side members will conveniently be joined permanently along a junction between one edge of one member and an edge of the other. For example, the two members may be integrally connected in side-by-side relationship and foldable into said face-to-face relationship along said junction. The junction will preferably be defined by a spine or crease, for example a line of stitching passing at least partially through the sheet-form material.

75 Separable connection of the two sleeve members may be provided for by means of stud-and-socket connectors along the relevant junction. Preferably, however, separable connection is by means of mechanical linkage strips such as available under the trade mark "velcro".

80 The sheet-form material will preferably comprise a sandwich construction in which a core of padding material (eg plastics foam or fibrous material such as polyester fibres) is sandwiched between a smooth surfaced liner which allows sliding contact with the seat belt band and an exterior fabric such as an upholstery fabric (eg made of cotton, synthetic textile material, leather or plastics fabric).

90 In a preferred embodiment of the invention, the sleeve comprises a flat composite rectangular sheet comprising an exterior covering, a core of padding and a smooth internal liner, the sheet having a stitched spine running its length and dividing the sheet into two essentially equally dimensional portions, a hook strip of a pair of a mechanical linkage strips being secured to the interior surface of the sheet adjacent an edge of one portion and running essentially parallel to the spine, and a brush strip being secured in a similar position and orientation to the other sheet portion so that the sheet can be folded along the spine to bring the two mechanical linkage strips into contact and engagement with the band of a seat belt disposed between the two sheet portions and the sleeve slidable relative to said band. The core may be omitted when the interior and exterior layers of the composite sheet in combination provide sufficient padding effect for comfort.

100 The following specific description of one embodiment of the invention is intended to illustrate the invention by way of example only, reference being made to the accompanying drawings in which:-

105 *Figure 1* shows a sleeve according to the invention secured in random position to the band of a seat belt;

*Figure 2* shows the sleeve of *Fig. 1* opened out to expose the interior surfaces; and

125 *Figure 3* is a cross-section on an enlarged scale through the sheet material of the sleeve showing its sandwich construction.

The sleeve shown in the drawings is designated by reference numeral 2 and is shown in *Fig. 1* enveloped over a seat belt band 1. The

sleeve 2 can be slid on the band 1 in either direction, as signified by the arrows shown, so that it can be moved manually to a desired location and so that movement of the wearer does not displace the sleeve in use.

As shown in Fig. 3, the sleeve 2 is of sandwich construction and comprises an exterior layer of cotton-based upholstery fabric 3, a core of fibrous polyester filling sheet 4 and a thin cotton fabric liner 5. Fabric layer 3 has a folded over marginal edge 3a on all of its four sides.

The sheet material of the sleeve 2 is divided into two equal elongate portions 7 and 8 (measuring approximately 30cm by 7.5cm) by spine stitching 6 which passes through all three layers 3, 4 and 5 of the sleeve. Spine stitching 6 forms a crease and constriction in the sheet material so that it naturally folds along the spine so that the two portions 7 and 8 can be brought into interfacial relationship over the seat belt band 1.

The two component strips 7a and 8a of a mechanical linkage strip system are secured to the liner 5, strip 7a being a brush strip, 8a being a hook strip. Securement is by stitching 9 and 10, the former passing through the entire sleeve 2 in the vicinity of folded over edge 3a and the latter passing through strip 7a or 8a, liner 5 and filling 4.

In use, the sleeve 2 in its open condition, as shown in Fig. 2, is first offered up to the band 1. The two are then brought together with band 1 having one of its longitudinal edges against spine stitching 6. The sleeve is then folded over the band 1 and the two strips 7a and 8a brought into contact and then pressed into engagement. This envelopes the band 1 within sleeve 2. The sleeve 2 is then slid along the band 1 until in the correct position to act as a pad between the shoulder/chest regions of the wearer and the band 1. As the wearer moves in his seat whilst travelling, the band 1 is free to slide within and relative to sleeve 2 so that the sleeve does not restrict movement and is not dislodged in use.

The invention as described earlier without reference to the drawings may include any one of more features of the invention as described with reference to the drawings.

#### CLAIMS

1. A sleeve for envelopment over an automobile seat belt to serve as a pad between the belt and the shoulder and/chest regions of its wearer for comfort purposes, the sleeve comprising a body of sheet-form material defining two opposed side members for the sleeve, means to unite the two members in face-to-face sleeve-defining relationship, with the members secured together at a junction along each of a pair of opposed lateral edges of each member but unconnected therebetween so that the members form an envel-

ope in which the belt is in use slidably received between the members and said opposed edges and extends from an opening defined by the members at one extremity to an opening so-defined at an opposed extremity, the members being separable along at least one lateral edge-to-edge junction so that the sleeve and belt can be separated, and the sheet-form material having an exterior surface which frictionally engages the belt wearer's clothing so that with movement of the wearer, the belt slides relative to the sleeve but the sleeve remains stationary relative to the underlying surface of the wearer's body and clothing.

2. A sleeve as claimed in Claim 1 wherein the two side members are joined permanently along a junction between one edge of one member and an edge of the other.

3. A sleeve as claimed in Claim 2 wherein the two members may be integrally connected in side-by-side relationship and foldable into said face-to-face relationship along said junction.

4. A sleeve as claimed in Claim 2 or Claim 3 wherein the junction is defined by a spine or crease.

5. A sleeve as claimed in any one of Claims 2 to 4 wherein the junction is defined by a line of stitching passing at least partially through the sheet-form material.

6. A sleeve as claimed in any preceding claim wherein separable connection of the two sleeve side members is by means of mechanical linkage strips.

7. A sleeve as claimed in any preceding claim wherein the sheet-form material comprises a sandwich construction in which a core of padding material is sandwiched between a smooth surfaced liner which allows sliding contact with the seat belt band and an exterior fabric such as an upholstery fabric.

8. A sleeve as claimed in Claim 1 wherein the sleeve comprises a flat composite rectangular sheet comprising an exterior covering, a core of padding and a smooth internal liner, the sheet having a stitched spine running its length and dividing the sheet into two essentially equally dimensional portions, a hook strip of a pair of a mechanical linkage strips being secured to the interior surface of the sheet adjacent an edge of one portion and running essentially parallel to the spine, and a brush strip being secured in a similar position and orientation to the other sheet portion so that the sheet can be folded along the spine to bring the two mechanical linkage strips into contact and engagement with the band of a seat belt disposed between the two sheet portions and the sleeve slidable relative to said band.

9. A sleeve as claimed in Claim 1 and substantially as hereinbefore described with reference to the accompanying drawings.

10. A seat belt having a sleeve as claimed

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in any preceding claim threaded thereon.

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